CONTENTS

PAGE

ANAPOL, FRED AND HERRING, SUSAN W. Length–tension relationships of masseter and digastric muscles of miniature swine during ontogeny 1

KIER, WILLIAM M., SMITH, KATHLEEN K. AND MIYAN, JALEEL A. Electromyography of the fin musculature of the cuttlefish *Sepia officinalis* 17

WHEATLY, MICHÈLE G. Physiological responses of the crayfish *Pacifastacus leniusculus* to environmental hyperoxia. I. Extracellular acid–base and electrolyte status and transbranchial exchange 33

WHEATLY, MICHÈLE G. AND TOOP, TES. Physiological responses of the crayfish *Pacifastacus leniusculus* to environmental hyperoxia. II. Role of the antennal gland in acid–base and ion regulation 53

EYLERS, JOHN P. AND GREENBERG, ALAN R. Swelling behaviour of the catch connective tissue in holothurian body wall 71

HANOZET, GIORGIO M., GIORDANA, BARBARA, SACCHI, V. FRANCA AND PARENTI, PAOLO. Amino acid transport systems in brush-border membrane vesicles from lepidopteran enterocytes 87

DOW, JULIAN A. T. AND PEACOCK, JILLIAN M. Microelectrode evidence for the electrical isolation of goblet cell cavities in *Manduca sexta* middle midgut 101

WENNING, ANGELA. Properties of a set of internal receptors in the medicinal leech: the nephridial nerve cells monitor extracellular chloride concentration 115

FERGUSON, R. A., TUFTS, B. L. AND BOUTILIER, R. G. Energy metabolism in trout red cells: consequences of adrenergic stimulation *in vivo* and *in vitro* 133

FERGUSON, R. A. AND BOUTILIER, R. G. Metabolic–membrane coupling in red blood cells of trout: the effects of anoxia and adrenergic stimulation 149

LAFEBER, FLORIS P. J. G., HERRMANN-ERLEE, M. P. M., FLIK, G. AND WENDELAAR BONGA, S. E. Rainbow trout hypocalcin stimulates bone resorption in embryonic mouse calvaria *in vitro* in a PTH-like fashion 165

ELLINGTON, W. ROSS. Phosphocreatine represents a thermodynamic and functional improvement over other muscle phosphagens 177

ARCHER, STEPHEN D. AND JOHNSTON, IAN A. Kinematics of labriform and subcarangiform swimming in the antarctic fish *Notothenia neglecta* 195

STONE, G. N. & WILLMER, P. G. Endothermy and temperature regulation in bees: a critique of 'grab and stab' measurement of body temperature 211

JENSEN, FRANK B. Hydrogen ion equilibria in fish haemoglobins 225

RAMACHANDRAN, A. V. AND NDUKUBA, PATRICK I. Parachlorophenylalanine retards tail regeneration in the gekkonid lizard *Hemidactylus flaviviridis* exposed to continuous light 235

DANIEL, THOMAS L. AND MEYHÖFER, EDGAR. Size limits in escape locomotion of carridean shrimp 245

ENNOS, A. ROLAND AND WOOTTON, ROBIN J. Functional wing morphology and aerodynamics of *Panorpa germanica* (Insecta: Mecoptera) 267

CAMERON, JAMES N. Post-moult calcification in the blue crab, *Callinectes sapidus*: timing and mechanism 285

FORGUE, JEAN, BURTIN, BERNARD AND MASSABUAU, JEAN-CHARLES. Maintenance of oxygen consumption in resting *Silurus glanis* at different levels of ambient oxygenation . . . 305

MOYES, C. D., BUCK, L. T., HOCHACHKA, P. W. AND SUAREZ, R. K. Oxidative properties of carp red and white muscle 321

GREENAWAY, P. AND MORRIS, S. Adaptations to a terrestrial existence by the robber crab *Birgus latro* L. III. Nitrogenous excretion 333

Contents

PAGE

REES, J. F. AND BAGUET, F. Metabolic control of luminescence in the luminous organs of the teleost *Porichthys*: effects of the metabolic inhibitors iodoacetic acid and potassium cyanide 347

WOMERSLEY, CHRISTOPHER AND CHING, CHERIE. Natural dehydration regimes as a prerequisite for the successful induction of anhydrobiosis in the nematode *Rotylenchulus reniformis* 359

SCHMITZ, J. AND HAßFELD, G. The treading-on-tarsus reflex in stick insects: phase-dependence and modifications of the motor output during walking 373

WUTTKE, WERNER A., SAWYER, ROY T. AND BERRY, MICHAEL S. Extraglandular innervation of the salivary cells of the leech *Haementeria ghilianii*: neuronal stimulation elicits gland-cell action potentials and secretion 389

DIXIT, ANAND S. AND TEWARY, P. D. Involvement of a circadian rhythm in the photoperiodic ovarian response of the yellow-throated sparrow *Gymnorhis xathocollis* 411

BANNATYNE, B. A., BLACKSHAW, S. E. AND MCGREGOR, M. New growth elicited in adult leech mechanosensory neurones by peripheral axon damage 419

CARRIER, DAVID R. Ventilatory action of the hypaxial muscles of the lizard *Iguana iguana*: a function of slow muscle 435

FRIXIONE, EUGENIO AND HERNÁNDEZ, JORGE. Modulation of screening-pigment position in crayfish photoreceptors by serotonin: possible involvement of Na^+/K^+-ATPase activity 459

GIBBS, ALLEN AND SOMERO, GEORGE N. Pressure adaptations of Na^+/K^+-ATPase in gills of marine teleosts 475

LEMMNITZ, G., SCHUPPE, H. AND WOLFF, H. G. Neuromotor bases of the escape behaviour of *Nassa mutabilis* 493

WADEPUHL, MARTIN. Depression of excitatory motoneurones by a single neurone in the leech central nervous system 509

ROWLETT, KAREN AND SIMKISS, K. Respiratory gases and acid–base balance in shell-less avian embryos 529

SHORT COMMUNICATIONS

CROGHAN, P. C. AND NOBLE-NESBITT, J. A note on the diffusion of water across oil and wax layers and insect cuticles 537

CAMERON, JAMES N. Intracellular buffering by dipeptides at high and low temperature in the blue crab *Callinectes sapidus* 543

ARMSTRONG, J. D., LUCAS, M. C., PRIEDE, I. G. AND DE VERA, L. An acoustic telemetry system for monitoring the heart rate of pike, *Esox lucius* L., and other fish in their natural environment 549

SCHAGENE, KIMBERLY A., WELSFORD, IAN G., PRIOR, DAVID J. AND BANTA, PAMELA A. Behavioural effects of injection of small cardioactive peptide, SCP_B, on the slug *Limax maximus* 553

WILLIAMS, THELMA L., GRILLNER, STEN, SMOLJANINOV, VLADIMIR, WALLÉN, PETER, KASHIN, SERGEI AND ROSSIGNOL, SERGE. Locomotion in lamprey and trout: the relative timing of activation and movement 559

INFORMATION ABOUT THE JOURNAL